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| 09/771,662 | 01/30/2001 | Raymond Joseph Gallant | | 8162 |

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| EXAMINER | |
|---|---|
| TAMAI, KARL I | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2834 | |

DATE MAILED: 02/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/771,662 | GALLANT, RAYMOND JOSEPH | |
| | Examin r | Art Unit | |
| | Tamai IE Karl | 2834 | MW |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 January 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *1/30/01* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

## DETAILED ACTION

### *Priority*

1. If applicant desires priority under 35 U.S.C. 120 based upon a previously filed application, specific reference to the earlier filed application must be made in the instant application. For benefit claims under 35 U.S.C. 120, 121 or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of the applications. This should appear as the first sentence of the specification following the title, preferably as a separate paragraph unless it appears in an application data sheet. The status of nonprovisional parent application(s) (whether patented or abandoned) should also be included. If a parent application has become abandoned, the expression "now abandoned" should follow the filing date of the parent application.

2. The disclosure is objected to because of the following informalities: The reference to the prior application does not include the status of the parent application AND it cites the wrong serial number; the parent application is 09/265,847, not 09/265,847 as set forth in the specification and the Oath. Appropriate correction is required.

### *Drawings*

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "14" has been used to designate both an axle (page 12, line 6 and a two way bearing assembly (page 14, line 16-17). A proposed

drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the uniform polarity of the magnets must be shown or the features canceled from the claims. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

5. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### *Claim Rejections - 35 USC § 102*

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 15 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hoffmann et al. (Hoffmann)(US 3,832,581). Hoffmann teaches an electric motor for an automobile having a radial air gap between the rotor/flywheel 38 and stator 20. The rotor including a non magnetic disc 40 with three concentric groups of magnets 42, 42a, 42b with three groups of electromagnets 34, 34a, 34b axially adjacent to the permanent magnets and mounted on axle 24. Hoffmann teaches the electromagnets reverse polarity to drive the rotor, which inherently alternatively attracts and repulses the magnets of the rotor. Hoffmann shows the thirty-six permanent magnets 42 imbedded in the flywheel 38 which extend completely through the rotor and are magnetized opposite magnetic poles axially aligned, inherently teaching an even number of magnets.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-5 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffmann et al. (Hoffmann)(US 3,832,581) and Obidniak (US 5,786,645). Hoffmann teaches an electric motor for an automobile having a radial air gap between the rotor/flywheel 38 and stator 20. The rotor including a non magnetic disc 40 with three concentric groups of magnets 42, 42a, 42b with

three groups of electromagnets 34, 34a, 34b axially adjacent to the permanent magnets. Hoffmann teaches the electromagnets reverse polarity to drive the rotor, which inherently alternatively attracts and repulses the magnets of the rotor. Hoffmann shows the thirty-six permanent magnets 42 imbedded in the flywheel 38 which extend completely through the rotor and are magnetized opposite magnetic poles axially aligned, inherently teaching an even number of magnets. Hoffman teaches every aspect of the invention except the magnets being uniform polarity in the first and second concentric arrays of permanent magnets, the electromagnets energized by high energy, short burst DC pulses by a DC capacitive discharge and controller, diametrically opposing coil simultaneously activated, and the magnets imbedded in the rotor. Obidniak teaches a disc motor/generator with permanent magnets 2 having a uniform polarity embedded in the flywheel. Obidniak teaches the electromagnets energized by high energy, short burst DC pulses by a DC capacitive discharge 7 and controller 10 where the controller determines the torque/speed by the amount of current provided for repulsion of the magnet 2. Obidniak teaches the coils are diametrically positioned and simultaneously activated, which inherently would minimize stress on the bearings. It is inherent that the generator coils 4 are regenerative during the coast mode. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Hoffman with the magnets having the same polarity to provide an efficient machine that operates as a motor and a generator.

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffmann et al. (Hoffmann)(US 3,832,581) and Obidniak (US 5,786,645), in further view of Hsu et al. (Hsu)(US 5,330,026). Hoffmann and Obidniak teach every aspect of the invention except the one-way bearing. Hsu teaches a one way bearing to let the motorized vehicle coast in the forward direction when the motor is turned off. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Hoffman and Obidniak with one way bearing because Hsu teaches that one way bearings allows the motorized vehicle rotor to coast after the motor is turned off.

11. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffmann et al. (Hoffmann)(US 3,832,581) and Obidniak (US 5,786,645), in further view of Kloosterhouse et al. (Kloosterhouse)(US 5191255). Hoffmann and Obidniak teach every aspect of the invention except the additional alternator coils and magnets. Kloosterhouse teaches that additional magnets and coils can be added to the disc motor to be dedicated to generating AC power. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Hoffman and Obidniak with a set of permanent magnets and alternator coils to generate AC power, as taught by Kloosterhouse.

12. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffmann et al. (Hoffmann)(US 3,832,581), Obidniak (US 5,786,645), and Kloosterhouse et al. (Kloosterhouse)(US 5,191,255), in further view of Horwinski

(US 4,042,056). Hoffman, Obidniak, and Kloosterhouse teach every aspect of the invention except the controller sequencer to control the regenerative breaking the motor and a coast mode for the motor. Horwinski teaches the motor is used for regenerative braking and recharging a battery when the motor is not operational (col. 2, line 13-23). It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Hoffman, Obidniak, and Kloosterhouse with a coast mode to recharge a battery and provide regenerative braking, as taught by Horwinski.

13. Claim 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman et al. (Hoffmann)(US 3,832,581) and Ford (US 5179307). Hoffman teaches every aspect of the invention except the use of the motor in a land vehicle and the controller controlling the direction of rotation. Ford teaches the use of DC brushless motors in land vehicles with a controller for steering by determining the direction of rotation (col. 7, line 28). It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Hoffman in a land vehicle because Ford teaches DC brushless motors are good motors for electric automobiles, with the controller controlling the direction of rotation to provide forward and reverse direction of travel.

14. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffmann et al. (Hoffmann)(US 3,832,581) and Ford (US

5179307) in further view of Shkondin (Shkondin). Hoffman and Ford teach every aspect of the invention except the controller sequencer to control braking by recapture of inertial energy and independent wheel motors. Shkondin teaches the braking and recapture of energy controller by a controller for independent wheel motors to provide a compact drive with good maneuvering and energy recovery. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Hoffman and Ford with independent wheel drives and regenerative braking to provide a compact drive with good maneuvering and energy recovery a coast mode to recharge a battery, as taught by Shkondin.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (703) 305-7066 until February 1, 2004, or at (571) 272-2036 after February 2, 2004. The examiner can be normally contacted on Monday through Friday from 8:00 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Nestor Ramirez, can be reached at (703) 308-1371. The facsimile number for the Group is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

KARL TAMAI
PRIMARY EXAMINER

Karl I Tamai
PRIMARY PATENT EXAMINER
January 22, 2004